considered in explaining certain well-known phenomena, dependent on the relations between the bladder and the sensory nerves, such as the desire to urinate caused by a sensation of extreme cold, or by entering a bath of cold or hot water. In this experiment also Dr. Bert discovered the presence of sugar in the saliva.—*Journ. Anat. and Phys.*, Nov. 1869.

12. *Physiological Action of Bromide of Potassium.*—Dr. PURSER, of Dublin, gives (*Dublin Quarterly Journ. of Med. Sci.*, May, 1869) the general results of his experiments to determine the physiological action of bromide of potassium somewhat in the following manner: After a stage of temporary excitement, which is not, however, invariably observed, bromide of potassium destroys reflex movement, by an action on the gray matter of the brain and cord. It next destroys sensibility, also by an action on those parts of the nerve centres whose function is to receive and conduct impressions coming from the periphery. The power of voluntary motion is generally retained for a considerable period after the reflex excitability is abolished; but it is likewise eventually lost, and this occurs while the nerves and muscles are yet functionally active. The effect on the heart varies according to the dose and place of injection. If the dose be large and injected in the neighbourhood of the thorax, the heart speedily comes to rest in diastole, before the occurrence of complete suspension of voluntary or even of reflex movement; but if the dose be comparatively small or injected at a distance from the thorax, the heart continues to beat for several hours after movement of every other kind is at an end. The capillary circulation, after a temporary acceleration, becomes slow, and altogether stops before the heart ceases to beat. Respiration is one of the first functions affected, sometimes stopping almost instantaneously on the introduction of the poison; and the respiratory movements of the chest cease before those of the throat. The nerves lose their conductivity at a late period, but muscular irritability is retained for some time after this. Dr. Purser concludes his paper with an account of a few experiments made with bromide of sodium, bromide of ammonium, and iodide of potassium, which appear to show that in physiological action these substances differ considerably from each other, and from bromide of potassium. The experiments were made on frogs only.—*Journ. Anat. and Phys.*, Nov. 1869.

13. *Physiological Action of Delphinia.*—Dr. CAYRADE (*Journal de l'Anat.*, No. 3, 1869) summarizes the results of his investigations into the action of the alkaloidal active principle of delphinium staphisagria, in the following conclusions: 1. Delphinia influences the spinal cord in such a manner as to diminish and then destroy its excito-motor power. 2. This action is produced gradually, and it extends from behind forwards, reflex power disappearing first in the posterior extremities, then in the anterior, and last of all in the head. 3. Voluntary movements continue after the loss of reflex power, but the former become incoördinate before their abolition. 4. Delphinia seems to affect successively the general sensibility, the reflex function, the respirations, and the power of coördinate movements. Its action is restricted to the nervous system.—*Journ. Anat. and Phys.*, Nov. 1869.

14. *Physiological Action of Picrotoxine.*—This active principle of *Menispermum Cocculus* has formed the subject of a recent investigation by Dr. ROEBER, of Berlin (*Archiv v. Reichert und Du Bois Reymond*, 1869, Heft 1, pp. 38-68). He found that in frogs a comatose condition was first produced, and then a series of tetanic spasms, which by and by became clonic. During the stage of clonic spasm, the inspirations were greatly exaggerated, so as abnormally to inflate the lungs; and, on the cessation of each spasm, the air rushed out suddenly with a distinct sound. The heart's action is slowed and the diastole prolonged by picrotoxine. The respiratory movements are at first almost abolished, but they reappear gradually on the disappearance of the spasms. It was found that the occurrence of spasms could not be prevented by removal of the cerebrum or optic lobes; but they never appeared after separation of the medulla oblongata from the m. spiralis. When this operation was performed, picrotoxine

produced a comatose condition in which reflex excitability was retained, but no dyspnœac symptoms appeared, and the heart's contractions were increased in frequency. The spasms are, therefore, dependent on stimulation of the medulla oblongata; and the slowing and even stoppage of the heart's action, as well as the inflated condition of the frog, are caused by this stimulant action affecting the vagus-centre. Accordingly, when the vagi nerves were divided, picrotoxine exerted a less powerful slowing action on the heart. A certain degree of this action was, however, observed, which Roeber refers to an influence on the cardiac motor-centre, as it could be produced even after the peripheral terminations of the vagus were paralyzed by nicotia. Division of the vagi likewise prevented the extreme inflation of the lungs. The activity of the reflex centre is diminished by picrotoxine, and Roeber believes that this effect is due to stimulation of Setschenow's inhibitory centre in the medulla oblongata, for it is not produced after the removal of this centre. The symptoms that appeared in rabbits were the same as those in frogs, only the former animal is more sensitive to the action of this poison than the latter.—*Journ. Anat. and Phys.*, Nov. 1869.

15. *On the Combined Action of Morphia and Chloroform.*—In his recent very interesting lectures before the College of France, Professor CLAUDE BERNARD points out some remarkable and valuable effects which may be obtained by combining the actions of morphia and chloroform (*Revue des Cours Scientifiques;* and *Bulletin Général de Thérapeutique*, Sept. 30, 1869, p. 241). Some years ago, Dr. Bernard had occasion to administer a dose of morphia to a dog recovering from the effects of chloroform, and he was surprised to observe that the morphia reproduced the anæsthetic effect of the previous dose of chloroform. More recently, this experiment was modified, so that a dog narcotized by morphia was completely and quickly anæsthetized by a quantity of chloroform very much smaller than would have been necessary to produce this effect in a dog in normal condition. It was further found, that when the anæsthesia had nearly disappeared, a second dose of morphia almost immediately reproduced it. It is well known that anæsthesia cannot be induced by morphia. This alkaloid exalts the sensory excitability, and induces torpor and narcotism; it never destroys sensibility. Chloroform, however, rapidly suspends the sensory excitability. It is, therefore, somewhat remarkable that the anæsthetic action of chloroform should be increased and prolonged by morphia. Dr. Bernard believes that this can be explained only by supposing that the action of the one substance is super-imposed on that of the other. When an animal is recovering from chloroform-anæsthesia, the quantity present in the blood is insufficient to completely suspend sensibility, although it is sufficient to greatly diminish it; but as morphia blunts the nervous sensibility, it aids the action of the chloroform, and thus a quantity of the latter, in itself insufficient to produce complete anæsthesia, becomes sufficient to do so when assisted by morphia. Bernard points out that this combination admits of several valuable applications, and that, indeed, it promises to be the best method of inducing anæsthesia. By administering a dose of morphia before commencing the inhalation of chloroform, anæsthesia is induced without any initiatory stage of excitement, and without incurring the risk of those accidents which are occasionally caused by large doses of chloroform.—*Journ. Anat. and Phys.*, Nov. 1869.

16. *Action of Veratrin.*—A very careful investigation of the therapeutic properties of veratrin has recently been made by M. PEGAITAZ, who has published his results in the *Deutsches Archiv für Klinische Medicin* for last month. He describes its effects both when taken internally and when subcutaneously injected; and finds them almost precisely the same, being as follows: In the earlier stage, excitation; subsequently depression. Then follow in succession salivation, nausea, sensation of choking, vomiting, and usually diarrhœa. The voluntary movements become unsteady, the want of power displaying itself first in the posterior, and subsequently in the anterior, limbs; accompanying this there appeared to be a certain degree of stiffness. There were coincidently